

540293

10/540293

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 July 2004 (22.07.2004)

PCT

(10) International Publication Number
WO 2004/060818 A1

(51) International Patent Classification⁷: C02F 1/50 (74) Agents: LEWEN, Bert, J. et al.; Darby & Darby P.C., P.O.Box 5257, New York, NY 10150-5257 (US).

(21) International Application Number: PCT/US2003/017882 (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 6 June 2003 (06.06.2003) (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(25) Filing Language: English (26) Publication Language: English

(30) Priority Data: 60/435,680 20 December 2002 (20.12.2002) US

(71) Applicant (for all designated States except US): LONZA INC. [US/US]; 17-17 Route 208, Fair Lawn, NJ 07410 (US).

(72) Inventors; and (75) Inventors/Applicants (for US only): LUDENSKY, Michael [US/US]; 10 Lake Shore Drive, Randolph, NJ 07869 (US). SWEENEY, Philip, Gerdon [US/US]; 32 Hillside Road, Hackettstown, NJ 07840 (US).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/060818 A1

(54) Title: METHOD FOR REMOVAL OF BIOFILM

(57) Abstract: The present invention provides a method for the removal of biofilm, flocculent bulked sludge or bulked biologically active sludge from an aqueous system. The method involves adding one or more chlorinated hydantoins, such as dichloro- or monochlorodialkylhydantoin, to the aqueous system. Alternatively, the chlorinated hydantoin may be formed in situ by adding a chlorine source and an alkylated hydantoin separately to the aqueous system. The invention is particularly advantageous because of the outstanding photostability of the chlorinated hydantoin solutions even when exposed to sunlight.